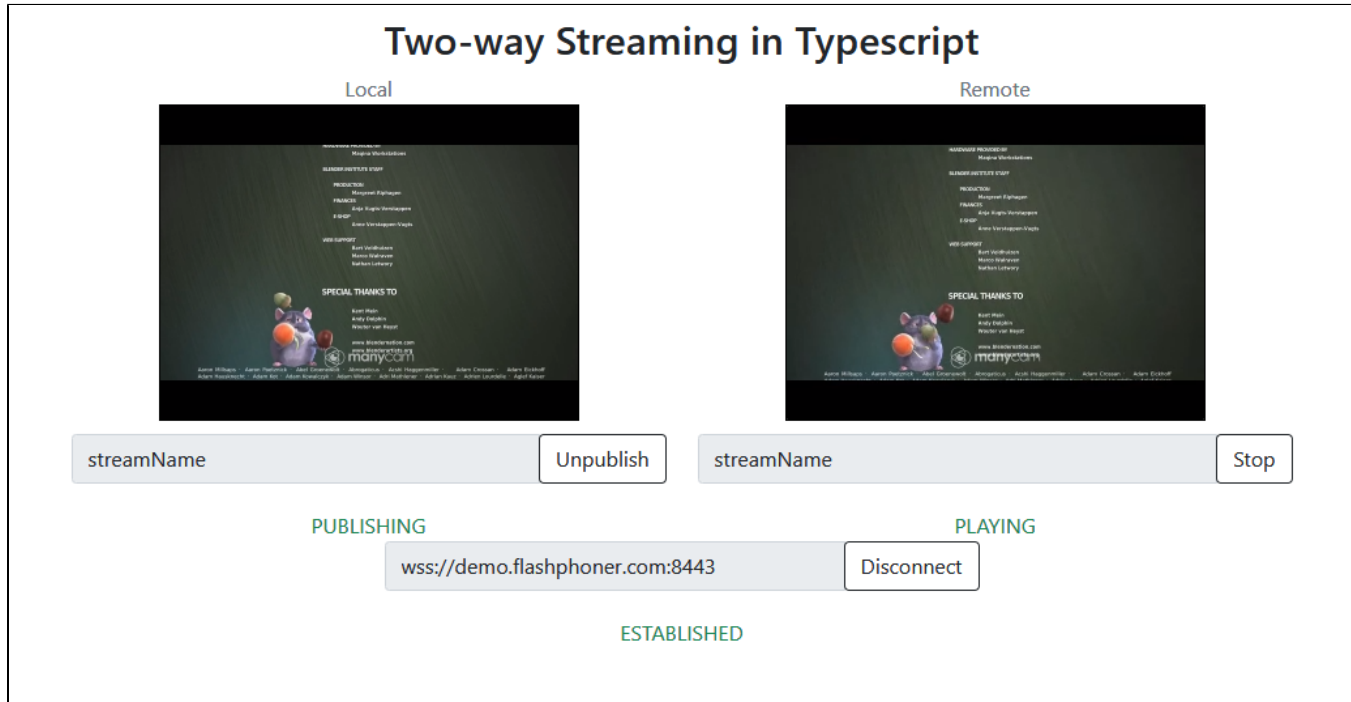


Two Way Streaming in Typescript

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Overview

Two Way Streaming in Typescript application shows how to use Web SDK in React application written in Typescript to publish and play WebRTC stream



The project is available on [GitHub](#), and in [Web SDK build archivess](#) since build 2.0.203 by the following path `examples/typescript/two-way-streaming-ts`.

Building the project

1. Download WebSDK source code

```
git clone https://github.com/flashphoner/flashphoner_client.git
```

2. Go to the example folder

```
cd flashphoner_client/examples/typescript/two-way-streaming-ts
```

3. Install dependencies

```
npm install
```

4. Build for local testing

```
npm start
```

or to deploy to your web server

```
npm run build
```

Analyzing example code

To analyze the code take version with hash **d9abaca** which is available [here](#) and in Web SDK build **2.0.203**

Application code is in [TwoWayStreamingApp.tsx](#) file, additional functions are in [fp-utils.ts](#) file

1. API import

[code](#)

```
import * as FPUUtils from './fp-utils';
import * as Flashphoner from '@flashphoner/websdk';
```

2. API initialization

Flashphoner.init() [code](#)

```
componentDidMount() {
  try {
    Flashphoner.init({});
    ...
  }
  catch(e) {
    console.log(e);
    ...
  }
}
```

3. Connecting to the server and receiving the event confirming connection is established successfully

Flashphoner.createSession(), SESSION_STATUS.ESTABLISHED [code](#)

```
onConnectClick = () => {
  let app = this;
  let url = this.state.serverUrl;
  let session = this.state.session;

  if (!session) {
    console.log("Create new session with url " + url);
    app.setState({connectButtonDisabled: true, serverUrlDisabled: true});
    Flashphoner.createSession({urlServer: url}).on(SESSION_STATUS.ESTABLISHED, (session) => {
      app.setState({sessionStatus: SESSION_STATUS.ESTABLISHED, sessionStatusClass: 'text-success'});
      app.onConnected(session);
    }).on(SESSION_STATUS.DISCONNECTED, () => {
      ...
    }).on(SESSION_STATUS.FAILED, () => {
      ...
    });
  }
  ...
}
```

4. Stream publishing

Session.createStream(), Stream.publish() [code](#)

```

publishStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.publishStreamName;
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      name: streamName,
      display: localVideo,
      cacheLocalResources: true,
      receiveVideo: false,
      receiveAudio: false
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      ...
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}

```

5. Receiving the event confirming the stream is successfully published

STREAM_STATUS.PUBLISHING [code](#)

```

publishStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.publishStreamName;
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      ...
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      app.setState({publishStatus: STREAM_STATUS.PUBLISHING, publishStatusClass: 'text-success'});
      app.onPublishing(stream);
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}

```

6. Stream playback with picture resizing to div size

Session.createStream(), Stream.play(), STREAM_STATUS.PENDING, FPUtills.resizeVideo() [code](#)

```

playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      let video = document.getElementById(stream.id());
      if (!video.hasListeners) {
        video.hasListeners = true;
        video.addEventListener('resize', (event) => {
          FPUtills.resizeVideo(event.target);
        });
      }
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      ...
    }).on(STREAM_STATUS.STOPPED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}

```

7. Receiving the event confirming successful playback

STREAM_STATUS.PLAYING [code](#)

```

playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      ...
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      app.setState({playStatus: STREAM_STATUS.PLAYING, playStatusClass: 'text-success'});
      app.onPlaying(stream);
    }).on(STREAM_STATUS.STOPPED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}

```

8. Playback stopping

Stream.stop() [code](#)

```

onPlayClick = () => {
  let app = this;
  let stream = this.state.playStream;
  ...

  if (!stream) {
    ...
    app.playStream();
  } else {
    app.setState({playButtonDisabled: true});
    stream.stop();
  }
}

```

9. Receiving the event confirming playback is stopped

STREAM_STATUS.STOPPED [code](#)

```

playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      ...
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      ...
    }).on(STREAM_STATUS.STOPPED, () => {
      app.setState({playStatus: STREAM_STATUS.STOPPED, playStatusClass: 'text-success'});
      app.onStopped();
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}

```

10. Publishing stopping

Stream.stop() [code](#)

```

onPublishClick = () => {
  let app = this;
  let stream = this.state.publishStream;
  ...
  if (!stream) {
    ...
    app.publishStream();
  } else {
    app.setState({publishButtonDisabled: true});
    stream.stop();
  }
}

```

11. Receiving the event confirming the stream is unpublished

STREAM_STATUS.UNPUBLISHED [code](#)

```

publishStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.publishStreamName;
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      ...
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      ...
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      app.setState({publishStatus: STREAM_STATUS.UNPUBLISHED, publishStatusClass: 'text-success'});
      app.onUnpublished();
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}

```

12. Connection closing

`Session.disconnect()` [code](#)

```

onConnectClick = () => {
  let app = this;
  let url = this.state.serverUrl;
  let session = this.state.session;

  if (!session) {
    ...
  } else {
    app.setState({connectButtonDisabled: true});
    session.disconnect();
  }
}

```

13. Receiving the event confirming the connection is closed

`SESSION_STATUS.DISCONNECTED` [code](#)

```

onConnectClick = () => {
  let app = this;
  let url = this.state.serverUrl;
  let session = this.state.session;

  if (!session) {
    ...
    Flashphoner.createSession({urlServer: url}).on(SESSION_STATUS.ESTABLISHED, (session) => {
      ...
    }).on(SESSION_STATUS.DISCONNECTED, () => {
      app.setState({sessionStatus: SESSION_STATUS.DISCONNECTED, sessionStatusClass: 'text-success'});
      app.onDisconnected();
    }).on(SESSION_STATUS.FAILED, () => {
      ...
    });
    ...
  }
}

```